REMARKS

Claims 13-24 are pending. Reconsideration of the application based on the following remarks is respectfully requested.

Claims 13 and 17-24 stand rejected under 35 U.S.C. §103(a) over Tomioka (U.S. Patent No. 5,853,910). The rejection is respectfully traversed.

Tomioka fails to disclose or render obvious "a flow control unit that controls the flow of the cathode-off gas in the circulation passage", "a stop control unit that stops the flow of the cathode-off gas in the circulation passage by controlling the flow control unit when the fuel cell system is stopped" and "a start-up control unit that controls the flow control unit after start-up of the fuel cell system until the fuel cell is brought into a predetermined operation state so as to hold the flow of the cathode-off gas in the circulation passage in a stopped state" as recited in independent claim 13 and similarly recited in independent claim 24.

Tomioka discloses a fuel cell powered generating apparatus having a structure such that a cathode and an anode are disposed on opposite sides of a polymer electrolyte membrane. See Abstract. Tomioka discloses that if the stacked temperature Ts is less than a measured temperature, Tm (Ts<Tm) in the air manifold, water should be coagulated. When the relationship is such that Ts<Tm, the CPU 28 turns on fan 12, turns off cooling fan 25, turns on air supply manifold 26, and turns off air-discharge manifold heater 27 so as to heat the stack. The control is performed in order to set Ts equal to Tm, thereby reducing the quantity of water coagulated in the stack to prevent closing of the gas flow passage adjacent to the cathode. See col. 11, lines 21-35. Tomioka further discloses that when operation of the fuel cell is interrupted continuously for a short time (for example, one or two nights and days) and where the outside air does not considerably change the temperature of water retained in the stacks, CPU 28 performs control similar to the foregoing control operation. See col. 11, lines 45-55. If the interruption of operation is continued for several days or

longer, or if water retained in the stack is evaporated so as to dry out the electrolyte membrane, the CPU 28 performs control in the following manner. In summer, stack cooling fan 25 is operated for a certain period. In winter, air fan 12 is turned on after the load has been interrupted. See col. 11, line 65-col. 12, line 8.

In rejecting Applicant's claims, the Office Action alleges that Tomioka discloses that the structure shown in Fig. 1 may be modified such that suction valve 21 is provided for air introducing passage 11 as shown in Fig. 2. Tomioka discloses that Fig. 1 may be modified such that suction valve 21 is provided for air introducing passage 11 as shown in Fig. 2 which allows for a portion of the discharged gas to be introduced in the cathode circulation passage 16. However, Tomioka does not disclose that the cathode circulation passage 16 is controlled to stop the flow of the cathode off-gas when the fuel cell system is stopped or that after start up of the fuel cell system until the fuel cell is brought into a predetermined operation state so as to hold the flow of the cathode-off gas in a circulation passage in a stopped state. Tomioka discloses that fan 12 is operated for a predetermined period after starting the fuel cell and that the suction valve 21 is operated according to the relationship of $A=\alpha \cdot BxC$, and explains the operation of suction valve 21 in great detail. See col. 6, line 6-col. 8, line 16. Controlling suction valve 21 would not prevent flow through passage 16 during the claimed "start-up control" period. As long as air passes through valve 21 (which would occur during start up), at least some gas flow occurs through passage 16, and during the predetermined period after start during which fan 12 is operated, the cathode-off gas is supplied to the fuel cell via passage 16. Thus, Tomioka fails to render obvious the combinations of features recited in claims 13 and 24, and claims 13 and 24 are patentable. Claims 17-23 also are patentable by their dependence on claim 13 for at least the reasons explained above regarding claim 13. Withdrawal of the rejection is respectfully requested.

Claims 14-16 stand rejected under 35 U.S.C. §103(a) over Tomioka in view of Kobayashi (U.S. Patent Application Publication No. 2001/0053469). Kobayashi fails to overcome the deficiencies of Tomioka explained above regarding claim 13. Thus, claims 14-16 are patentable by their dependence on claim 13 for at least the reasons explained above regarding claim 13. Withdrawal of the rejection is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of all pending claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

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